REMBASS-II Seismic/Acoustic Sensor

Date Revised: 30 JAN 04

VENDOR DESCRIPTION

The REMBASS-II Seismic/Acoustic Sensor (S/A) is a component of the U.S. Army's type standard unattended ground sensor system, REMBASS-II. It is a passive, covert sensor system that utilizes sophisticated signal processing to detect targets and then classify the target as either personnel, wheeled vehicle, or tracked vehicle. The sensor features a high probability of detection and a very low false alarm rate. The S/A sensor communicates target messages up to 15km using LPI/LPD burst transmissions on one of 599 channels in the VHF band. When used in conjunction with the Army's AMDS operator display software, the system provides commanders with enhanced situational awareness and target development capabilities. The REMBASS-II system has been subjected to a full military verification and qualification program.

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Business Category: Large Business

Seismic

Power Source	
Sensors	4 COTS 9V lithium batteries 30 days @ 1000 activations/day @ -40°C 45 days @ 1000 activations/day @ +20°C
Supplemental Battery Box	8 COTS 9V lithium batteries Additional 60 days mission life
Monitor	4 COTS 9V lithium batteries 7 days @ 4000 activations/day @ -25°C 12 days @ 4000 activations/day @ +20°C
Repeater	1 BA-5590 lithium battery 25 days @ 4000 activations/day @ -40°C

Environmental			
High Temp.	+71.1°C	Low Temp.	-40°C (Monitor -25°C)
Altitude	15,000 ft (Operating)		35,000ft (Transit)
Humidity	95% relative humidity per MIL-STD-810E		
Immersion	Withstands 24 hrs in 1m H_2O at 27°C differential		
Sand/Dust	Resistant in 35-knot winds per MIL-STD-810E		
Salt	Resistant per MIL-STD-810E, Method 509.2		
Fungus	Resistant to 28 days growth period		
Shock/Vibe	Random vibration, drop test & loose cargo test /MIL-STD-810E		
EMI/EMC	Complies w/MIL-STD-461A, Level CE06, RE02, RE02.1, RS03		

Sensor	Description	Detection	Size/Weight	Features
Seismic	Employs a sophisticated algorithm to classify targets as personnel, wheeled or tracked vehicles based on combined seismic and acoustic signatures	Tracked Vehicle 0-750m Wheeled Vehicle 0-500m Personnel 0- 75m	189mm x 104mm x 80mm Weight: 1.1 kg	■ Passive detection ■ Covert operation ■ Low false alarm rate ■ Quiescent until activated by targets ■ Operates on COTS batteries ■ Low power DSP

Device	Description	Message Type	Size/Weight	Features
Monitor	Provides the capability to display sensor transmissions. Can be used to relay sensor data to an external digital display via built-in RS-232 port.	29-bit REMBASS 101-bit REMBASS 20/29 TRSS 101/285 TRSS	53mm x 78mm x 163mm Weight: 0.7 kg	■ VHF 138-153 MHz ■ 599 channels ■ LPI/LPD ultra-short burst transmissions ■ 2-watt transmitters, 15km range (100km airborne)